

$$\textcircled{1} \quad x^2 + 6x = 0$$

FORMA 1
(factor comum)

$$x(x+6) = 0 \quad \begin{cases} \boxed{x_1 = 0} \\ x_2 + 6 = 0 \rightarrow \boxed{x_2 = -6} \end{cases}$$

FORMA 2
(fórmula)

$$\begin{aligned} a &= 1 \\ b &= 6 \\ c &= 0 \end{aligned}$$

$$\boxed{x_1 = 0}$$

$$x_2 = \frac{-b}{a} ; \quad x_2 = \frac{-6}{1} ; \quad \boxed{x_2 = -6}$$

$$\textcircled{2} \quad 3x^2 = 12x$$

$$3x^2 - 12x = 0$$

FORMA 1

$$3x(x-4) = 0 \quad \begin{cases} 3x = 0 \rightarrow x = \frac{0}{3} ; \boxed{x_1 = 0} \\ x - 4 = 0 \rightarrow \boxed{x_2 = 4} \end{cases}$$

FORMA 2

$$\begin{aligned} a &= 3 \\ b &= -12 \\ c &= 0 \end{aligned} \quad \begin{cases} \boxed{x_1 = 0} \\ x_2 = \frac{-b}{a} ; \quad x_2 = \frac{-(-12)}{3} = \frac{12}{3} ; \boxed{x_2 = 4} \end{cases}$$

$$\textcircled{3} \quad 5x = 10x^2 \Rightarrow 10x^2 - 5x = 0$$

FORMA 1

$$5x(2x-1) = 0 \quad \begin{cases} 5x = 0 \rightarrow \boxed{x_1 = 0} \\ 2x - 1 = 0 \rightarrow 2x = 1 ; \boxed{x_2 = \frac{1}{2}} \end{cases}$$

FORMA 2

$$\begin{aligned} a &= 10 \\ b &= -5 \\ c &= 0 \end{aligned} \quad \begin{cases} \boxed{x_1 = 0} \\ x_2 = \frac{-b}{a} ; \quad x_2 = \frac{-(-5)}{10} ; \quad x_2 = \frac{5}{10} ; \boxed{x_2 = \frac{1}{2}} \end{cases}$$

$$(4) \quad 25x^2 - 4 = 0$$

FORMA 1

$$25x^2 = 4$$

$$x^2 = \frac{4}{25}$$

$$x = \sqrt{\frac{4}{25}}$$

$$x = \frac{\sqrt{4}}{\sqrt{25}}$$

$$\boxed{x = \pm \frac{2}{5}}$$

FORMA 2

Usando la fórmula.

$$a = 25$$

$$b = 0$$

$$c = -4$$

$$\rightarrow \pm \sqrt{\frac{-c}{a}}$$

$$x = \pm \sqrt{\frac{-c}{a}} = \pm \sqrt{\frac{-(-4)}{25}} =$$

$$= \pm \sqrt{\frac{4}{25}} = \pm \frac{\sqrt{4}}{\sqrt{25}} = \pm \frac{2}{5}$$

$$\boxed{\begin{matrix} x_1 = \frac{2}{5} \\ x_2 = -\frac{2}{5} \end{matrix}}$$

$$(5) \quad -8x^2 = -18$$

$$-8x^2 + 18 = 0$$

$$\begin{cases} a = -8 \\ b = 0 \\ c = 18 \end{cases}$$

$$x = \pm \sqrt{\frac{-c}{a}}$$

$$x = \pm \sqrt{\frac{-18}{-8}} ; x = \pm \sqrt{\frac{18}{8}} = \pm \sqrt{\frac{9}{4}} = \pm \frac{\sqrt{9}}{\sqrt{4}} = \pm \frac{3}{2}$$

$$\boxed{\begin{matrix} x_1 = \frac{3}{2} \\ x_2 = -\frac{3}{2} \end{matrix}}$$

$$(6) \quad 5x^2 = 100 \rightarrow 5x^2 - 100 = 0 \quad \begin{cases} a = 5 \\ b = 0 \\ c = -100 \end{cases}$$

$$x = \pm \sqrt{\frac{-c}{a}} = \pm \sqrt{\frac{-(-100)}{5}} =$$

$$= \pm \sqrt{\frac{100}{5}} = \pm \sqrt{20} \quad \begin{cases} x_1 = +\sqrt{20} \\ x_2 = -\sqrt{20} \end{cases}$$